

THAT WHICH IS CLAIMED IS:

1. An apparatus for processing a telecommunication signal, comprising:
  - a first signal processor for performing a signal processing function upon a telecommunication signal, in accordance with a signal processing parameter, and
  - 5 for producing a first processed telecommunication signal;
    - a first controller connected with the first signal processor for monitoring the value of the signal processing parameter;
    - a system controller connected for receiving the telecommunication signal, the system controller connected with the first processor for transmitting the
  - 10 telecommunication signal to the first processor and for receiving the value of the signal processing parameter from the first controller, the system controller further connected for receiving the processed telecommunication signal from the first signal processor and for transmitting the processed telecommunication signal as a transmitted signal;
  - 15 a second signal processor for performing the signal processing function upon the telecommunication signal, and for producing a second processed telecommunication signal;
    - a second controller connected with the second processor for providing a signal processing parameter to the second processor;
  - 20 the system controller further configured for transmitting the value of the signal processing parameter to the second controller, and for replacing the transmitted signal with the second processed signal subsequent to transmitting the value of the signal processing parameter to the second controller.

2. The apparatus of claim 1 wherein said first signal processor is an echo canceller.

3. The apparatus of claim 2 wherein said first signal processor is a multi-channel  
5 echo canceller, and said signal processing parameter is a logical signal indicating whether echo cancellation is enabled on each channel.

4. The apparatus of claim 3 wherein said first signal processor includes a tone disabler circuit for detecting the presence of an echo canceller disabling tone  
10 within each channel and for producing said logical signal in response thereto.

5. The apparatus of claim 3 wherein said signal processing parameter includes state variables defining the impulse response for each of the channels in which echo cancellation is enabled.  
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6. The apparatus of claim 3 wherein said tone disabler circuit is further responsive to an external control signal from the first controller for independently controlling whether echo cancellation is enabled on each channel.

20 7. A method of operating an echo cancelling system, comprising:  
connecting a first multi-channel echo canceller configured to selectively cancel echo in a plurality of telecommunication channels to a multi-channel telecommunication system;  
monitoring a state condition of echo cancellation in each channel and

- indicating the state condition to a system controller;
- transmitting the state condition from the system controller to a redundant multi-channel echo canceller;
- disconnecting the first multi-channel echo canceller from the
- 5 telecommunication system; and
- connecting the redundant multi-channel echo canceller to the telecommunication system.

8. The method of claim 7 wherein the step of monitoring state condition  
10 comprises monitoring whether echo cancellation is being applied to each of the channels.

9. An echo cancellation system comprising:  
a first echo canceller module comprising a multi-channel echo canceller  
15 and a first controller configured for monitoring a state of echo cancellation on each channel;  
a second echo canceller module comprising an multi-channel echo canceller and a second controller configured for establishing a state of echo cancellation on each channel; and  
20 a system controller configured for selectively connecting the first and second echo cancellers to a telecommunication network, the system controller further configured for receiving and recording from the first controller an indication of the echo cancellation state on each channel, and for transmitting to the second controller the recorded state indication such that the second echo

canceller is established in operation in accordance with the recorded state information when it is connected by the system controller to the telecommunication network.

- 5       10. The echo cancellation system of claim 9 wherein the first controller is configured to monitor the state of echo cancellation as an indicator of whether echo cancellation is being applied to each channel.